



Carolina Power & Light Company

Company Correspondence

Brunswick Nuclear Plant  
P. O. Box 10429  
Southport, N.C. 28461-0429

APR 30 1993

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Serial: BSEP-93-0066

10CFR50.73

U.S. Nuclear Regulatory Commission  
ATTN: Document Control Desk  
Washington, D. C. 20555

BRUNSWICK STEAM ELECTRIC PLANT UNIT 1  
DOCKET NO. 50-325  
LICENSE NO. DPR-71  
SUPPLEMENT ONE TO LICENSEE EVENT REPORT 1-93-04

Gentlemen:

In accordance with Title 10 of the Code of Federal Regulations, the enclosed Licensee Event Report is submitted. This report fulfills the requirement for a written report within thirty (30) days of a reportable occurrence and is submitted in accordance with the format set forth in NUREG-1022, September 1983.

Very truly yours,

J. M. Brown, Plant Manager - Unit 1  
Brunswick Nuclear Plant

SFT/

Enclosure

cc: Mr. S. D. Ebner  
Mr. P. D. Milano  
BSEP NRC Resident Office

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PDR ADOCK 05000325  
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EXPIRES: 5/31/95

ESTIMATED BURDEN PER RESPONSE TO COMPLY WITH THIS INFORMATION COLLECTION REQUEST: 60.0 HRS. FORWARD COMMENTS REGARDING BURDEN ESTIMATE TO THE INFORMATION AND RECORDS MANAGEMENT BRANCH (MNBB 7714), U.S. NUCLEAR REGULATORY COMMISSION, WASHINGTON, DC 20565-0001, AND TO THE PAPERWORK REDUCTION PROJECT (3150-0104), OFFICE OF MANAGEMENT AND BUDGET, WASHINGTON, DC 20503.

## LICENSEE EVENT REPORT (LER)

FACILITY NAME (1)

Brunswick Steam Electric Plant, Unit 1

DOCKET NUMBER (2)

05000325

PAGE (3)

1

TITLE (4)

Failure To Implement Technical Specification Action Statements During Reactor Protection System Relay Maintenance and Surveillance

EVENT DATE (5)			LER NUMBER (6)			REPORT DATE (7)			OTHER FACILITIES INVOLVED (8)	
MONTH	DAY	YEAR	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	MONTH	DAY	YEAR	FACILITY NAME	DOCKET NUMBER
02	09	93	93	- 004 -	001	04	30	93	BSEP Unit 2	05000324
									FACILITY NAME	DOCKET NUMBER
										05000

  

OPERATING MODE (9)	04	THIS REPORT IS SUBMITTED PURSUANT TO THE REQUIREMENTS OF 10 CFR 1: (Check one or more of the following)(11)							
POWER LEVEL (10)	00	20.402(b)		20.405(c)		50.73(a)(2)(iv)		73.71(b)	
		20.405(a)(1)(i)		50.36(c)(1)		50.73(a)(2)(v)		73.71(c)	
		20.405(a)(1)(ii)		50.36(c)(2)		50.73(a)(2)(vii)		OTHER	
		20.405(a)(1)(iii)	X	50.73(a)(2)(i)		50.73(a)(2)(viii)(A)		(Specify in Abstract and Text)	
		20.405(a)(1)(iv)		50.73(a)(2)(iii)		50.73(a)(2)(viii)(B)			
		20.405(a)(1)(v)		50.73(a)(2)(iii)		50.73(a)(2)(ix)			

## LICENSEE CONTACT FOR THIS LER (12)

NAME

Steve F. Tabor, Regulatory Compliance Specialist

TELEPHONE NUMBER

(919) 457-2178

## COMPLETE ONE LINE FOR EACH COMPONENT FAILURE DESCRIBED IN THIS REPORT (13)

CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS	CAUSE	SYSTEM	COMPONENT	MANUFACTURER	REPORTABLE TO NPRDS

## SUPPLEMENTAL REPORT EXPECTED (14)

SUPPLEMENTAL REPORT EXPECTED (14)			EXPECTED SUBMISSION DATE (15)	MONTH	DAY	YEAR
YES	X	NO				
(If yes, complete EXPECTED SUBMISSION DATE)						

## ABSTRACT (Limit to 1400 spaces, i.e. approximately fifteen single space typewritten lines) (16)

On February 9, 1993, Operations personnel identified that the actions required to satisfy the Technical Specifications were not adequately established during previous periods when the Unit 1 and Unit 2 Reactor Protection System (RPS) systems had been declared inoperable. On August 11, 1992, a Limiting Condition of Operation was initiated to support replacement of the Unit 2 RPS automatic and manual trip relays. With both of the channels of the RPS trip logic inoperable, Technical Specification requires placing at least one RPS trip system in the tripped condition, locking the reactor mode switch in the shutdown position, and verifying that all control rods are fully inserted at least once per 12 hours. Contrary to this, incomplete actions as required by Technical Specification were taken in that locking the mode switch in shutdown was the only action taken. On February 9, 1993, a revision to the same Unit 2 LCO and a Unit 1 LCO were generated which did not specify the complete actions necessary to satisfy Technical Specifications. Similarly, on November 25, 1992, when the Unit 1 RPS was declared inoperable due to an expired surveillance, the complete actions as addressed in the Technical Specification were not implemented. A root cause analysis is in progress. The results of this analysis will be reported in a supplement to this LER. On February 12, 1993, following replacement and satisfactory operability testing of the Unit 2 RPS relays, the system was restored to operability. On February 24, 1993, following satisfactory performance of the Unit 1 RPS surveillance, the system was restored to operability. These events are of no safety significance in that both Units were in Cold Shutdown with all control rods fully inserted. Previous similar events were reported in LERs 1-90-005, 1-91-008, and 2-90-001. Additional information regarding the root cause of this event and corrective actions to prevent recurrence are included in the Supplemental Information section.

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**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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Brunswick Steam Electric Plant Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	2
		93	- 004 -	001	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

TITLE

Failure To Implement Technical Specification Action Statements During Reactor Protection System (RPS) Relay Maintenance and Surveillance

INITIAL CONDITIONS

Units 1 and 2 were in Cold Shutdown since April 21, 1992 due to an extended maintenance outage.

On August 11, 1992, efforts were in progress to replace three trip relays in two of the three Unit 2 RPS "A" trip channels.

On September 9, 1992, October 27, 1992, and November 24, 1992 requests to perform the Unit 1 RPS Logic System Functional Test, 1MST-RPS41R, due to plant conditions. The surveillance tolerance was due to expire on December 3, 1992.

EVENT NARRATIVE

Unit 1 Event:

On November 25, 1992, the Unit 1 RPS was declared inoperable and a Limiting Condition For Operation (LCO) A1-92-1255 was initiated in anticipation of not being able to perform a required RPS surveillance, RPS Logic System Functional Test, 1MST-RPS41R, by the date of expiration. The required actions specified by LCO A1-92-1255 included the immediate verification that all control rods are fully inserted and subsequent verification at least once every 12 hours. The applicable actions required by the Technical Specification including locking the reactor mode switch in the shutdown position and placing at least one RPS trip system in the tripped condition were not specified by the LCO and these actions were not taken. On December 3, 1992, the surveillance 1MST-RPS41R expired resulting in no alterations to the actions required by LCO A1-92-1255.

On February 8, 1993, during a review of the testing required to re-establish operability of the Unit 2 RPS relays replaced during the current outage, Operations was unable to verify past operability testing of the RPS Manual Scram relays on either Unit. Consequently, Operations declared the RPS Manual Scram relays inoperable and initiated a second LCO (A1-93-0106). The actions specified by this LCO as written included placing the "B" trip system of the Unit 1 RPS in the tripped condition and locking the Unit 1 reactor mode switch in the shutdown position. Operations did not recognize that the inoperability of the RPS Manual Scram relays affects the reactor mode switch scram function and that in addition to the actions specified in the LCO, the immediate verification that all control rods are fully inserted and reverification at least once every 12 hours was also required by the Technical Specification. However, Technical Specification compliance was achieved through the action established in LCO A1-92-1255 which required that all control rods be verified immediately and at least once per 12 hours. Although compliance with the Technical Specification did occur as a result of the combined actions specified in LCOs A1-92-1255 and A1-93-0106, CP&L recognizes that proper LCO administration requires that each LCO fully implements the requirements independently.

The action statements specified by LCOs A1-93-0106 and A1-92-1255 were maintained until satisfactory completion of 1MST-RPS41R. On February 24, 1993, at 1727 hours, following satisfactory completion of 1MST-RPS41R, Unit 1 LCOs A1-92-1255 and A1-93-0106 were canceled and the Unit 1 RPS returned to operability.

**LICENSEE EVENT REPORT (LER)  
TEXT CONTINUATION**

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		93	- 004 -	001	

TEXT (If more space is required, use additional NRC Form 366A's) (17)

Unit 2 Event:

On August 11, 1992, to support replacing the Unit 2 RPS "A" and "B" logic channel automatic and manual trip relays, the Unit 2 RPS was declared inoperable and LCO A2-92-0997 initiated. The action statement specified by the LCO as written required the Unit 2 reactor mode switch to be locked in the shutdown position. The reactor mode switch had been placed in the shutdown position since the beginning of the outage and no additional action was taken at this time. With both channels of the RPS inoperable, Technical Specification requires placing at least one of the RPS trip systems in the tripped condition, locking the Unit 2 reactor mode switch in the shutdown position, and verifying that all control rods are fully inserted immediately and at least once per 12 hours. With the exception of the reactor mode switch, the actions to comply with the requirements of the Technical Specification were not taken. Replacement of the Unit 2 RPS "A" and "B" logic channel trip relays was completed on January 10, 1993.

On February 8, 1993, a review to establish the requirements for Unit 2 RPS system operability was initiated. While trying to determine the procedure necessary to verify the operability of the replaced RPS Manual Scram relays, Operations erroneously concluded that no such procedure existed and that prior operability testing of these relays could not be established. Consequently, on February 9, 1993, Operations revised the actions required by LCO A2-92-0997 and added the requirement to place one of the RPS trip systems in the tripped condition. Although the Technical Specification requires verifying control rods are fully inserted at least once per 12 hours, this requirement was not specified on the revision to the LCO at this time and nor was the action taken.

On February 10, 1993, Operations was informed that operability testing of the Unit 2 RPS Manual Scram trip relays is satisfied in the existing surveillance test, 2MST-RPS41R, RPS Logic System Functional Test. On February 12, 1993 following satisfactory completion of 2MST-RPS41R, LCO A2-92-0997 was canceled and the Unit 2 RPS restored to operability.

CAUSE OF EVENT

A root cause analysis is in progress. The results of this analysis will be reported in a supplement to this LER.

CORRECTIVE ACTIONS

Corrective actions will be reported in a supplement to this LER.

SAFETY ASSESSMENT

This event is of no safety significance. The purpose of RPS is to insert control rods. Throughout this event the Units were in Cold Shutdown. Control rod movement is inhibited in mode 4.

PREVIOUS SIMILAR EVENTS

Previous similar events have been reported in LERs 1-90-005, 1-91-008, and 2-90-001.



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**LICENSEE EVENT REPORT (LER)**  
**TEXT CONTINUATION**

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Brunswick Steam Electric Plant Unit 1	05000325	YEAR	SEQUENTIAL NUMBER	REVISION NUMBER	4
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TEXT (If more space is required, use additional NRC Form 366A's) (17)

IIIS COMPONENT IDENTIFICATION

<u>System/Component</u>	<u>IIIS Code</u>
Reactor Protection System	JE
RPS Trip Relays	JE/94

Supplemental Information:

The failure to document and perform the required Technical Specification actions when the Unit 1 and Unit 2 RPS were inoperable is due to the following:

Because the emergency diesel generators were inoperable due to seismic concerns, the plant was required to enter TS 3.0.3 which created a circumstance beyond those addressed in the specification. Consequently, both units were placed in cold shutdown. As a result of this condition, some Operators developed a mindset that no plant equipment was operable. Given the mindset that the technical specifications did not bound the plant conditions, all of the actions which would ensure maximum reactor safety were taken (i.e., suspend all reactivity additions, core alterations, fuel movement in secondary containment, and any activity with the potential to drain the vessel). During this process the control rods were fully inserted and the reactor mode switch locked in the shutdown position. Subsequent LCOs documented only those actions believed to provide reactor safety beyond that already taken.

The following corrective actions have been implemented to prevent recurrence:

A sample of the LCOs generated during the outage was reviewed to determine whether a generic problem involving the correct implementation of Technical Specification required actions occurred during the outage. The results of this review identified some minor LCO documentation deficiencies; however, these deficiencies did not result in non-compliance with the Technical Specification. The cause of the LCO documentation deficiencies is attributed to the mindset addressed above.

The Unit 2 Operator prestartup training and startup readiness programs were performed in part to ensure the plant operators were fully capable of performing their licensed duties including Technical Specification compliance.

This event will be reviewed with appropriate Operations personnel to emphasize the need to maintain full compliance with Technical Specification at all times by July 2, 1993.